



DEPARTMENT OF HOMELAND SECURITY
U.S. CUSTOMS AND BORDER PROTECTION
NOTICE OF ISSUANCE OF FINAL DETERMINATION CONCERNING
CERTAIN AGILENT OSCILLOSCOPES

AGENCY: U.S. Customs and Border Protection, Department of Homeland Security.

ACTION: Notice of final determination.

SUMMARY: This document provides notice that U.S. Customs and Border Protection (“CBP”) has issued a final determination concerning the country of origin of certain oscilloscopes. We were asked to consider five scenarios. Based upon the facts presented, CBP has concluded in the final determination that for each scenario the assembly and programming operations performed in Singapore substantially transform the components of the oscilloscopes. Therefore, the country of origin of the oscilloscopes for purposes of U.S. government procurement is Singapore.

DATE: The final determination was issued on April 23, 2012. A copy of the final determination is attached. Any party-at-interest, as defined in 19 C.F.R. § 177.22(d), may seek judicial review of this final determination on or before [insert 30 days from date of publication in the Federal Register].

FOR FURTHER INFORMATION CONTACT: Heather K. Pinnock, Valuation and Special Programs Branch: (202) 325-0034.

SUPPLEMENTARY INFORMATION: Notice is hereby given that on April 23, 2012, pursuant to subpart B of part 177, Customs Regulations (19 C.F.R. Part 177, subpart B), CBP issued a final determination concerning the country of origin of certain series of Agilent oscilloscopes which may be offered to the U.S. Government under an undesignated government procurement contract. This final determination, HQ H203555, was issued under procedures set forth at 19 C.F.R. Part 177, subpart B, which implements Title III of the Trade Agreements Act of 1979, as amended (19 U.S.C. § 2511–18). In the final determination, CBP concluded that, based upon the assembly and programming operations in Singapore, the country of origin of the oscilloscopes for purposes of U.S. government procurement is Singapore.

Section 177.29, Customs Regulations (19 C.F.R. § 177.29), provides that a notice of final determination shall be published in the *Federal Register* within 60 days of the date the final determination is issued. Section 177.30, CBP Regulations (19 C.F.R. § 177.30), provides that any party-at-interest, as defined in 19 C.F.R. § 177.22(d), may seek judicial review of a final determination within 30 days of publication of such determination in the *Federal Register*.

DATED: April 23, 2012

Sandra L. Bell
Executive Director
Regulations and Rulings
Office of International Trade

Attachment

HQ H203555

April 23, 2012

MAR-2 OT:RR:CTF:VS H203555 HkP

CATEGORY: Origin

Mr. Keith Morgan
Americas Geographic Trade Manager
Agilent Technologies, Inc.
8825 Stanford Boulevard
Suite 300
Columbia, MD 21045

RE: Government Procurement; Trade Agreements Act; Country of Origin of
certain Oscilloscopes; Substantial Transformation

Dear Mr. Morgan:

This is in response to your letter, dated January 30, 2012, requesting a final determination on behalf of Agilent Technologies, Inc. ("Agilent"), pursuant to subpart B of part 177 of the U.S. Customs and Border Protection ("CBP") Regulations (19 C.F.R. Part 177). Under these regulations, which implement Title III of the Trade Agreements Act of 1979 ("TAA"), as amended (19 U.S.C. § 2511 et seq.), CBP issues country of origin advisory rulings and final determinations as to whether an article is or would be a product of a designated country or instrumentality for the purposes of granting waivers of certain "Buy American" restrictions in U.S. law or practice for products offered for sale to the U.S. Government.

This final determination concerns the country of origin of Agilent's MSOX/DSOX200A and MSOX/DSOX3000A series oscilloscopes. As a U.S. importer, Agilent is a party-at-interest within the meaning of 19 C.F.R. § 177.22(d)(1) and is entitled to request this final determination.

FACTS:

Agilent imports the MSOX/DSOX200A and MSOX/DSOX3000A series oscilloscopes, which are used to measure voltage in a variety of research, design, production and evaluation applications, from Malaysia. The two model series include 28 different configurations with varying bandwidth and sampling rates. The oscilloscopes consist of the following components:

1. ACQ board printed circuit assembly (PCA) populated with transistors, diodes, capacitors, integrated circuits, and a 1GB flash memory to store product firmware and application software that is the oscilloscopes' main controller. It is described as the "motherboard" of the oscilloscopes;
2. Keyboard PCA;

3. Main keypad;
4. Soft keypad;
5. Liquid Crystal Display (LCD);
6. LCD lens;
7. AC line filter PCA that acts as the power manager;
8. Power supply;
9. Fan;
10. Bucket assembly – a plastic component that forms part of the back cover of the oscilloscope;
11. Bezel;
12. Front and rear deck – sheet metal components that form the internal chassis; and
13. Cables, bolts, screws, washers and connectors.

The components are manufactured in several countries, including China, Malaysia, and Taiwan.

The application software and firmware for the oscilloscopes are developed in the United States. Firmware development consists of requirements analysis, design, code writing, quality assurance testing, bug fixing, maintenance and support. According to Agilent's submission, more than half of the years (the number of which is unstated) taken to develop the oscilloscopes were invested in the development of firmware, and an additional two years are invested in continued firmware development and maintenance.

Agilent has asked us to consider five manufacturing scenarios. Regardless of the scenario, the following processes take place in Singapore where the components listed above are assembled into subassemblies (described below) which are then made into complete oscilloscopes. The rear deck subassembly, consisting of the fan, the AC Line Filter PCA, power supply, AC and DC cables, and wiring, is installed into the rear deck. The front deck subassembly, consisting of a display mount, the ACQ board PCA, brackets, and various types of cables (keyboard, display, display backlight, interboard supply), is installed into the front deck. The front bezel assembly, consisting of the bezel, keypad, keyboard, cables, and knobs, is fitted together. The front and rear deck subassemblies are fitted together and the interboard power cable on the front deck subassembly is connected to the AC line filter PCA on the rear deck subassembly. The power supply shield, power switch, and front panel connectors are installed and the bezel assembly is connected to the front and rear deck subassembly. The entire assembly is placed into a fixture that is fitted together with the bucket assembly. The oscilloscopes then go through three post-assembly tests to ensure proper functionality and a cosmetic inspection. They are then shipped to Malaysia where they undergo a final pre-shipment functional test and cosmetic inspection.

Scenario 1

The ACQ board for the front deck subassembly and the AC line filter PCA for the rear deck subassembly are manufactured in Malaysia and shipped to Singapore. U.S.-origin firmware and application software is downloaded onto the fully assembled oscilloscopes in Singapore.

Scenario 2

The ACQ board is assembled in Malaysia and shipped to Singapore where it is programmed with application software during the front deck subassembly process. The AC line filter PCA is also assembled in Malaysia and shipped to Singapore. U.S.-origin firmware is downloaded onto the fully assembled oscilloscopes in Singapore.

Scenario 3

The ACQ board and the AC line filter PCA are manufactured in Malaysia. The ACQ board is temporarily programmed with application software and tested in Malaysia. Before shipment to Singapore the software is deleted from the ACQ board. In Singapore, U.S.-origin firmware and application software is downloaded onto the fully assembled oscilloscopes.

Scenario 4

As in scenario three, the ACQ board is assembled, programmed and tested in Malaysia and its software is deleted before it is shipped to Singapore. U.S.-origin firmware and application software is downloaded onto the fully assembled oscilloscopes in Singapore. The AC line filter PCA is made in Singapore.

Scenario 5

The ACQ board is assembled in Malaysia and shipped to Singapore. The AC line filter PCA is manufactured in Singapore. U.S.-origin application software and firmware is downloaded onto the fully assembled oscilloscopes in Singapore.

ISSUE:

What is the country of origin of the oscilloscopes for purposes of U.S. Government procurement?

LAW AND ANALYSIS:

Pursuant to Subpart B of Part 177, 19 CFR § 177.21 et seq., which implements Title III of the Trade Agreements Act of 1979, as amended (19 U.S.C. § 2511 et seq.), CBP issues country of origin advisory rulings and final determinations

as to whether an article is or would be a product of a designated country or instrumentality for the purposes of granting waivers of certain "Buy American" restrictions in U.S. law or practice for products offered for sale to the U.S. Government.

Under the rule of origin set forth under 19 U.S.C. § 2518(4)(B):

An article is a product of a country or instrumentality only if (i) it is wholly the growth, product, or manufacture of that country or instrumentality, or (ii) in the case of an article which consists in whole or in part of materials from another country or instrumentality, it has been substantially transformed into a new and different article of commerce with a name, character, or use distinct from that of the article or articles from which it was so transformed.

See also 19 C.F.R. § 177.22(a).

In order to determine whether a substantial transformation occurs when components of various origins are assembled into completed products, CBP considers the totality of the circumstances and makes such determinations on a case-by-case basis. The country of origin of the item's components, extent of the processing that occurs within a country, and whether such processing renders a product with a new name, character, and use are primary considerations in such cases. Additionally, factors such as the resources expended on product design and development, the extent and nature of post-assembly inspection and testing procedures, and worker skill required during the actual manufacturing process will be considered when determining whether a substantial transformation has occurred. No one factor is determinative.

In Data General v. United States, 4 Ct. Int'l Trade 182 (1982), the court determined that for purposes of determining eligibility under item 807.00, Tariff Schedules of the United States (predecessor to subheading 9802.00.80, Harmonized Tariff Schedule of the United States), the programming of a foreign PROM (Programmable Read-Only Memory chip) in the United States substantially transformed the PROM into a U.S. article. The court noted that programming alters the character of a PROM by changing the pattern of interconnections within the PROM. A distinct physical change is effected in the PROM by the opening or closing of the fuses, depending on the method of programming. This physical alteration, not visible to the naked eye, may be discerned by electronic testing of the PROM. The essence of the article, its interconnections or stored memory, is established by programming. The court concluded that altering the non-functioning circuitry comprising a PROM through technological expertise in order to produce a functioning read only memory device possessing a desired distinctive circuit pattern, is no less a "substantial transformation" than the manual interconnection of transistors, resistors and diodes upon a circuit board creating a similar pattern.

In Texas Instruments v. United States, 681 F.2d 778, 782 (CCPA 1982), the court observed that the substantial transformation issue is a “mixed question of technology and customs law.”

In C.S.D. 84-86, CBP stated:

We are of the opinion that the rationale of the court in the *Data General* case may be applied in the present case to support the principle that the essence of an integrated circuit memory storage device is established by programming . . . [W]e are of the opinion that the programming (or reprogramming) of an EPROM results in a new and different article of commerce which would be considered to be a product of the country where the programming or reprogramming takes place.

Accordingly, the programming of a device that changes or defines its use generally constitutes substantial transformation. See also Headquarters Ruling Letter (‘HQ”) 558868, dated February 23, 1995 (programming of SecureID Card substantially transforms the card because it gives the card its character and use as part of a security system and the programming is a permanent change that cannot be undone); HQ 735027, dated September 7, 1993 (programming blank media (EEPROM) with instructions that allow it to perform certain functions that prevent piracy of software constitute substantial transformation); and, HQ 733085, dated July 13, 1990; but see HQ 732870, dated March 19, 1990 (formatting a blank diskette does not constitute substantial transformation because it does not add value, does not involve complex or highly technical operations and did not create a new or different product); HQ 734518, dated June 28, 1993, (motherboards are not substantially transformed by the implanting of the central processing unit on the board because, whereas in Data General use was being assigned to the PROM, the use of the motherboard had already been determined when the importer imports it).

Agilent believes that the country of origin of the oscilloscopes is Singapore because that is where the oscilloscopes were manufactured and programmed with the U.S.-origin firmware and software that cause the machines to function as oscilloscopes. According to the company, the firmware and software substantially transform the electronic assemblies into functioning oscilloscopes. In support of its position, Agilent cites HQ H090115 (Aug. 2, 2010) because it believes that the facts underlying that ruling are similar to the facts in the instant case. HQ H090115 concerned the country of origin of a product known as “Unified Communications Solution”, composed of subassemblies made in China installed at an end user’s premises in the United States over a one month period and run on U.S.-origin software known as “Communication Manager”. Communication Manager added functionality to certain individual components and changed the functionality of other components. CBP found that there was a substantial transformation of the component parts in the United States, which was where the final assembly and installation of the hardware and the programming of the components with Communication Manager took place. We note that HQ H090115 is distinguishable from the instant case because in HQ H090115 manufacturing operations took

place in only one country and programming took place in another. In this case, manufacturing occurs in both Malaysia and Singapore and programming may take place in either country.

A ruling more pertinent to the facts in this case is HQ H170315, dated July 28, 2011, which concerned the country of origin of satellite telephones and considered scenarios similar to those described in this ruling. In HQ H170315, CBP was asked to consider six scenarios involving the manufacture of PCBs in one country and the programming of the PCBs with second country software either in the first country or in a third country where the phones were assembled. In this case, PCAs are manufactured in Malaysia and programmed with U.S. software and firmware either in the Malaysia or in Singapore where the oscilloscopes are assembled.

Scenario 1

In this scenario, the ACQ board (the motherboard of the oscilloscopes) and the AC line filter PCA (the power controller) are assembled in Malaysia and shipped to Singapore. After importation into Singapore, the boards are assembled with subassemblies of Singaporean origin into oscilloscopes. U.S.-origin firmware and application software are then downloaded onto the fully assembled oscilloscopes, which are then subjected to a basic test. The oscilloscopes are shipped to Malaysia for complete testing.

In this scenario, a large number of parts are assembled in Malaysia to form the Malaysian-origin boards. Upon importation into Singapore, the boards are assembled with rear, front deck, and bezel subassemblies made in Singapore from components imported from China, Malaysia, and Taiwan. In addition, the completed oscilloscopes are programmed with U.S.-origin application software and firmware in Singapore. Accordingly, in this scenario, there are three countries under consideration where programming and/or assembly operations take place, the last of which is Singapore. No one country's operations dominate the manufacturing operations of the oscilloscopes. The boards assembled in Malaysia are important to the function of the oscilloscopes, as is the U.S. firmware and software used to program the oscilloscopes in Singapore. The assembly in Singapore completes the oscilloscopes. Therefore, we find that the last substantial transformation occurs in Singapore. See Belcrest Linens, supra; HQ H170315 (July 28, 2011), Scenario III. Consequently, we find that the country of origin of the oscilloscopes in this scenario is Singapore.

Scenario 2

In this scenario, as in Scenario 1, the ACQ board and the AC line filter PCA are assembled in Malaysia and shipped to Singapore. However, in this scenario, after importation into Singapore the ACQ board is programmed with U.S.-origin application software during the front deck subassembly process instead of after the oscilloscopes are completed. The boards are then assembled with subassemblies

of Singaporean origin into oscilloscopes. U.S.-origin firmware is downloaded onto the fully assembled oscilloscopes in Singapore. The oscilloscopes undergo a basic testing before being shipped to Malaysia for further testing.

As discussed under Scenario 1, the boards imported from Malaysia are products of Malaysia. Upon importation into Singapore, they are assembled with rear, front deck, and bezel subassemblies, which are made in Singapore, to form complete oscilloscopes, which are then programmed with U.S.-origin application software and firmware in Singapore. Accordingly, there are three countries under consideration where programming and/or assembly operations take place, the last of which is Singapore. In this scenario, no one country's operations dominate the manufacturing operations of the oscilloscopes. The boards assembled in Malaysia are important to the function of the oscilloscopes, as is the U.S. firmware and software used to program the oscilloscopes in Singapore. Further, the assembly in Singapore completes the oscilloscopes. Therefore, as in Scenario 1, we find that the last substantial transformation occurs in Singapore. See Belcrest Linens, supra; HQ H170315 (July 28, 2011), Scenarios IV and V. Consequently, we find that the country of origin of the oscilloscopes in this scenario is Singapore.

Scenario 3

As in previous scenarios, the ACQ board and the AC line filter PCA are manufactured in Malaysia. However, in this scenario, the ACQ board is temporarily programmed with application software and tested in Malaysia. Before shipment to Singapore, the software is deleted from the ACQ board so that the board is not programmed when imported into Singapore. U.S.-origin firmware and application software is downloaded onto the fully assembled oscilloscopes in Singapore.

We find this scenario to be essentially the same as Scenario 1 because in both scenarios the ACQ board is not programmed when imported into Singapore, and the facts are otherwise the same as those in Scenario 1. Accordingly, for the reasons explained for Scenario 1, we find that the country of origin of the oscilloscopes in this scenario is Singapore.

Scenario 4

As in Scenario 3, the ACQ board is assembled, programmed and tested in Malaysia and its software is deleted before it is shipped to Singapore. However, in this scenario, the AC line filter PCA is made in Singapore, not Malaysia. U.S.-origin firmware and application software is downloaded onto the fully assembled oscilloscopes in Singapore.

As in previous scenarios, there are three countries under consideration where programming and/or assembly operations take place, the last of which is Singapore. In this scenario, no one country's operations dominate the manufacturing operations of the oscilloscopes. The boards assembled in Malaysia and Singapore are important to the function of the oscilloscopes, as is the U.S.

firmware and software used to program the oscilloscopes in Singapore. Further, the assembly operations in Singapore complete the oscilloscopes. Therefore, we find that the last substantial transformation occurs in Singapore. See Belcrest Linens, supra; HQ H170315 (July 28, 2011). Consequently, we find that the country of origin of the oscilloscopes in this scenario is Singapore.

Scenario 5

The ACQ board is assembled in Malaysia and shipped to Singapore. The AC line filter PCA is manufactured in Singapore. U.S.-origin application software and firmware is downloaded onto the fully assembled oscilloscopes in Singapore.

We find this scenario to be essentially the same as Scenario 4 because in both scenarios the ACQ board is not programmed when imported into Singapore, and the facts are otherwise the same as those in Scenario 4. Accordingly, for the reasons explained for Scenario 4, we find that the country of origin of the oscilloscopes in this scenario is Singapore.

HOLDING:

Based on the facts in this case, we find that for all scenarios the country where the last substantial transformation takes place is Singapore. The country of origin of the Agilent MSOX/ DSOX200A and MSOX/DSOX3000A series oscilloscopes is Singapore for purposes of U.S. Government procurement.

Notice of this final determination will be given in the Federal Register, as required by 19 C.F.R. § 177.29. Any party-at-interest other than the party which requested this final determination may request, pursuant to 19 C.F.R. § 177.31, that CBP reexamine the matter anew and issue a new final determination. Pursuant to 19 C.F.R. § 177.30, any party-at-interest may, within 30 days of publication of the Federal Register Notice referenced above, seek judicial review of this final determination before the Court of International Trade.

Sincerely,

Sandra L. Bell, Executive Director
Regulations and Rulings
Office of International Trade